

# DNREC-SIRS Presentation

## General Motors Corp. Operable Unit 5

### Proposed Plan of Remedial Action

### Public Hearing



Rick Galloway  
Project Manager  
March 13, 2019



On January 6, 2019, DNREC-Site Investigation & Restoration Section (SIRS) issued a Proposed Plan of Remedial Action (Proposed Plan) for General Motors Corporation Operable Unit 5 (OU-5) under Hazardous Substance Cleanup Act (HSCA) (7 Del. C. Section 9107 (e) (1)):

9107 Remedies. Subsection (e) Before conducting a remedial action, the Secretary shall:

(1) Propose a plan of remedial action based on any investigation or study conducted by or for the Secretary, the potentially responsible party, or others.

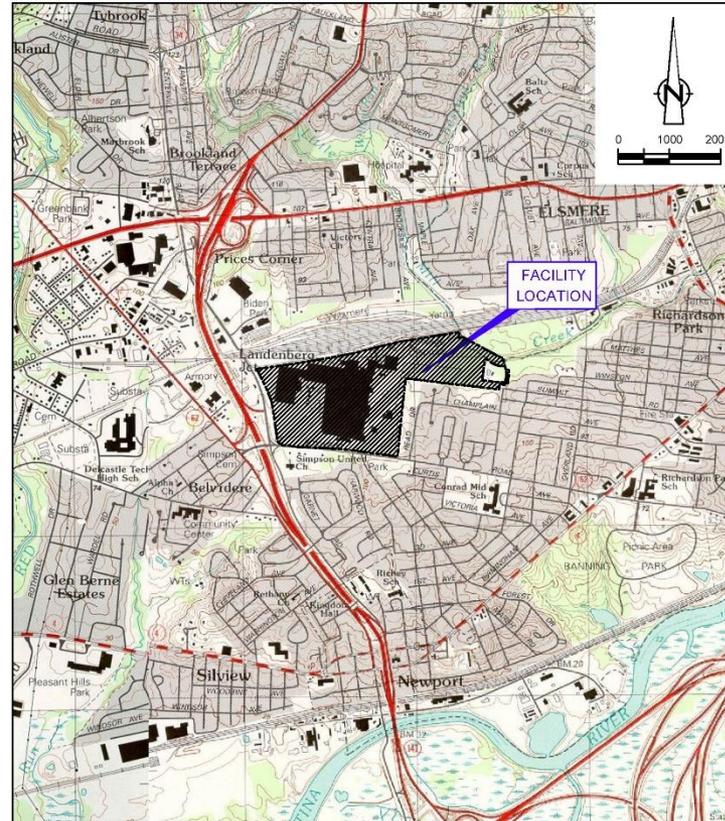


# Exhibits

1. **July 17, 2015** - Remedial Investigation Report (Appendices A-H links below)
2. **June 30, 2017** - OU-5 Focused Feasibility Study Report
3. **October 9, 2018** - Monitoring Well Abandonment and Installation Work Plan
4. **November 15, 2018** - OU-5 Groundwater Monitoring results Report
5. **December 20, 2018** - VI Evaluation for OU-5 Memo
6. **January 2, 2019** - Legal Notice for Proposed Plan of Remedial Action and Public Workshop for **OU-5**
7. **January 2, 2019** - Proposed Plan of Remedial Action OU-5
8. **February 17, 2019** - Legal Notice for Public Hearing regarding the Proposed Plan of Remedial Action-OU-5, General Motors Corp-Wilmington Assembly Plant
9. **March 13, 2019** - Public Hearing Presentation regarding the Proposed Plan of Remedial Action-OU-5, General Motors Corp-Wilmington Assembly Plant



# Facility Location Map



**LEGEND**  
 APPROXIMATE FACILITY BOUNDARY

**FIGURE 1**  
**FACILITY LOCATION**  
**REMEDIAL INVESTIGATION REPORT**  
**FORMER GM WILMINGTON ASSEMBLY PLANT**  
*Wilmington, Delaware*



**REFERENCE:**  
USGS WILMINGTON SOUTH QUADRANGLE, DEL TOPOGRAPHIC, 7.5  
MINUTES SERIES 1997 SCALE: 1:24,000

017338-T04(PRES005)GN-SC002 OCT 30, 2015



# Site History

- Site was developed in 1945 by General Motors Corp as an automobile assembly plant.
- Operations were from 1946-July 2009.
- In July 2010, Fisker Automotive, Inc. purchased.
- In April 2014, Wanxiang Delaware Real Estate Holdings purchased the Site.
- In October 2017, Boxwood Industrial Park, LLC purchased the Site.
- Site buildings included Main Assembly Building (3.2 Million Square Ft.), Waste Water Treatment Plant, Pump Houses and Powerhouses.
- Operations included automobile assembly including painting, filling cars with fluids, fueling cars, waste water treatment, etc.
- A portion of OU-5 was used to burn extra wooden pallets then used as a car test track. Areas of OU-5 were filled.
- OU-5 likely became contaminated due to historic land filling.



# Site Operable Units (OUs) Map

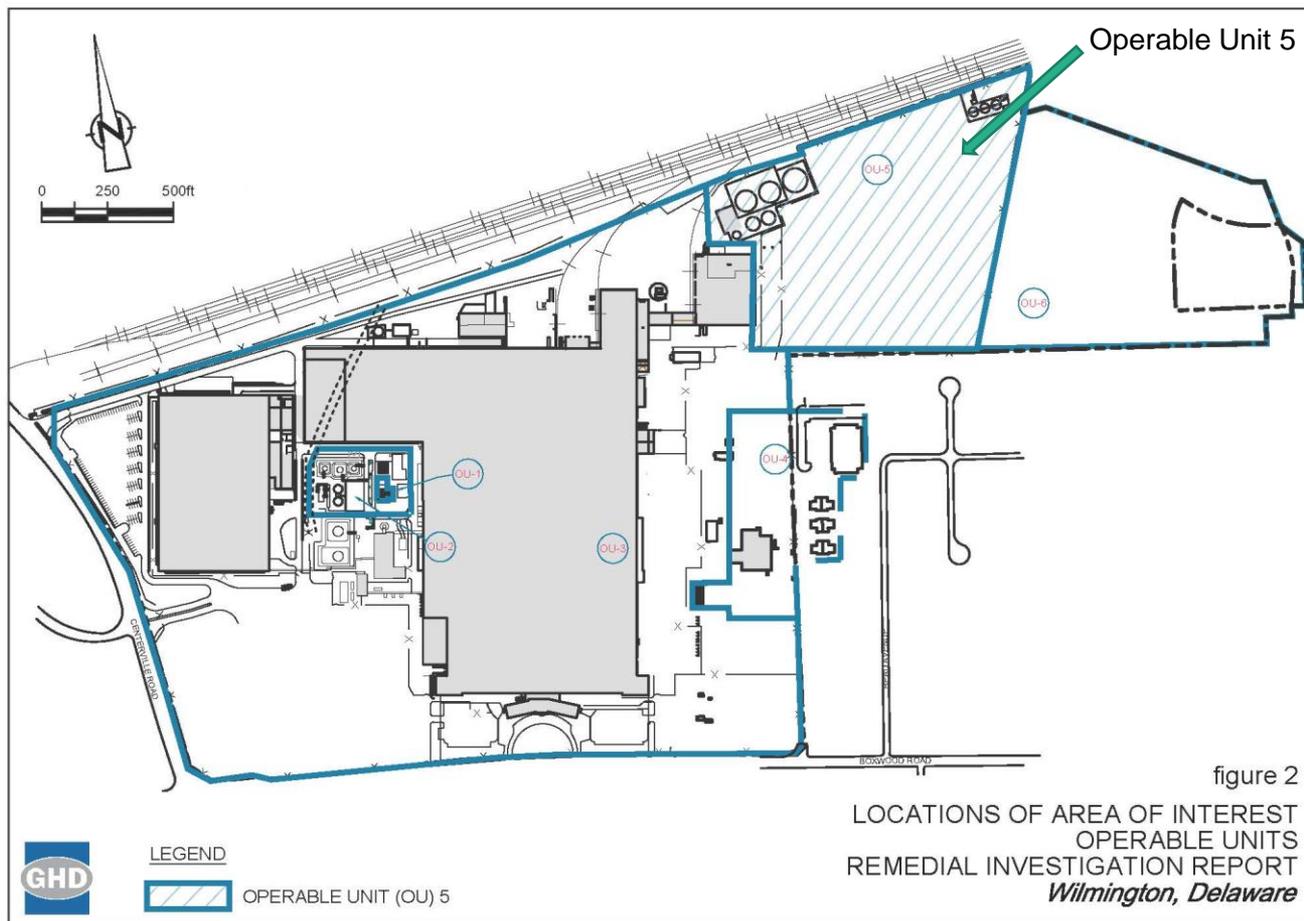
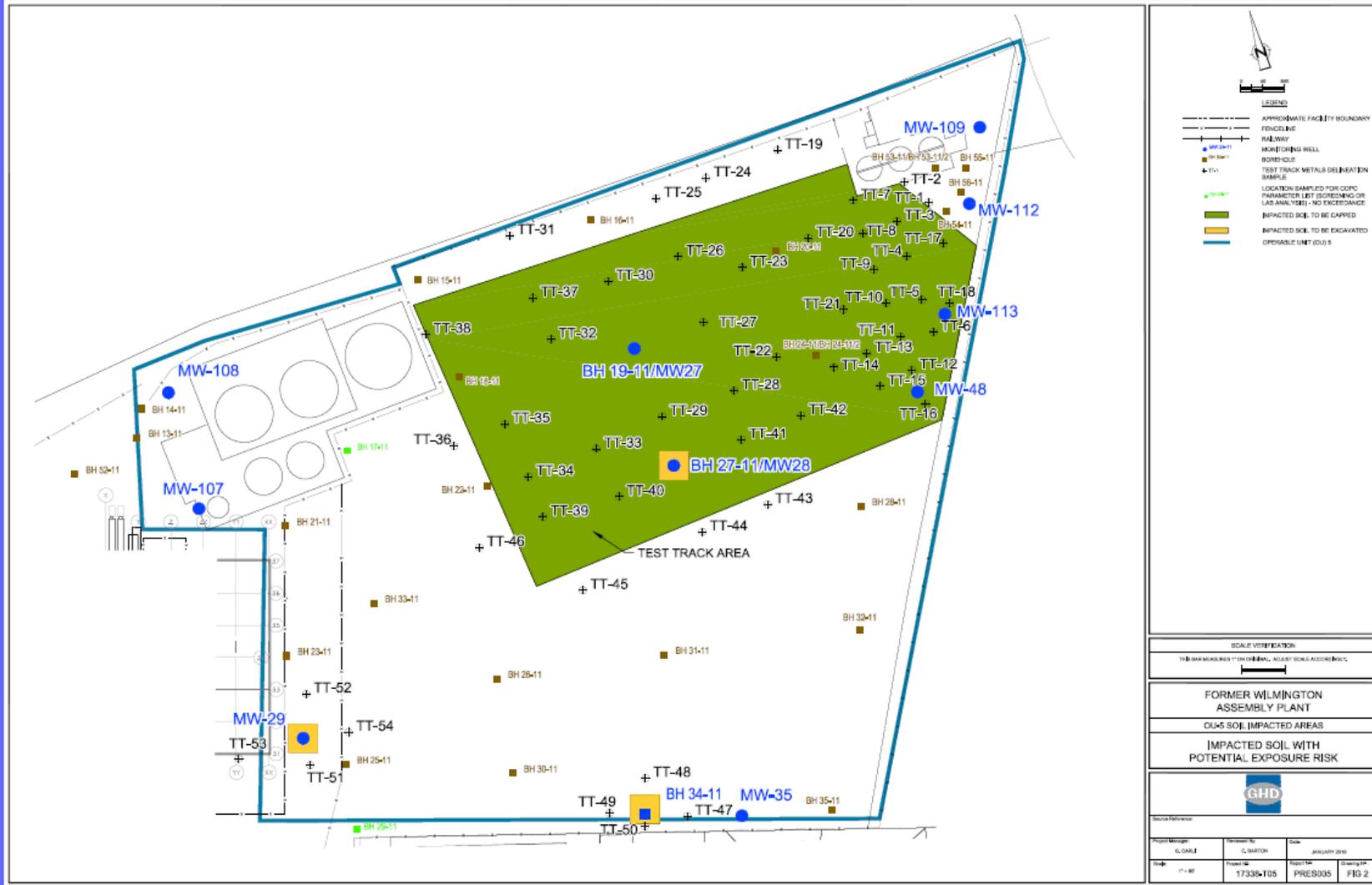


figure 2

LOCATIONS OF AREA OF INTEREST  
OPERABLE UNITS  
REMEDIAL INVESTIGATION REPORT  
*Wilmington, Delaware*



# Map Showing Impacted Soil in OU-5





# Investigation Results

## July 2015 Remedial Investigation- OU-5 Results

- 123 soil samples analyzed, 8 monitoring wells sampled.
- Soil contamination- antimony, arsenic, cadmium, lead.
- Soil presents potential risk to indoor workers, outdoor workers, and utility workers above cancer risk of  $1 \times 10^{-5}$  (1 in 100,000) and/or non-cancer risk Hazard Index (HI) of 1. These are HSCA risk standards.
- Four areas identified- MW-29 Area, BH-34 Area, BH-27 Area, and Test Track Area.
- Groundwater contamination-
  - Metals - arsenic, barium, cobalt, iron and manganese.
  - Volatile organic Compounds (VOCs)- benzene and ethylbenzene.
  - Semi-VOCs (SVOCs)-naphthalene



# Investigation Results (continued)

## July 2015 Remedial Investigation- OU-5 Results (cont.)

- Groundwater presents a possible drinking water (potable) ingestion risk above cancer risk of  $1 \times 10^{-5}$  (1 in 100,000) and/or Hazard Index (HI) of 1. There is no use of groundwater onsite.
- Groundwater contamination above cancer risk of  $1 \times 10^{-5}$  (1 in 100,000) and/or Hazard Index (HI) of 1 is not migrating offsite.
- Little Mill Creek sampling- no metals or site related contaminants above HSCA standards in surface water or sediment.

## June 2017 OU-5 Focused Feasibility Study

- Four remedial alternatives were evaluated-
  - Alternative 1- No Action (As a Baseline Condition)
  - Alternative 2- Excavation and Offsite Disposal of Soil
  - Alternative 3- Capping with limited excavation and offsite disposal of soil.
  - Alternative 4- In Situ/Ex Situ Treatment of soil.
- Alternative 3 was chosen because it meets remediation goals and is most cost effective.



# Investigation Results (continued)

## November 2018 OU-5 Groundwater Monitoring Results

- Two new wells installed at the eastern side of OU-5. Installed hydraulically down-gradient of source areas.
- Samples collected from OU-5 groundwater.
- Arsenic, cobalt, iron and manganese over HSCA risk standards.
- Ecological evaluation indicates no ecological impact to Little Mill Creek.
- Little Mill Creek RI sampling- no metals or site related contaminants above HSCA standards in surface water or sediment.

## December 2018 Vapor Intrusion Re-Evaluation of OU-5

- Due to potential building on OU-5, previous groundwater and soil data was re-evaluated for vapor intrusion (VI) risk.
- BH-27 Area soil removal added to remedy to eliminate VI risk above DNREC standards.
- No vapor intrusion risk above HSCA risk standards to building occupants.



# Proposed Plan- Proposed Remedy

1. **Prepare a Remedial Action Work Plan** for the four (4) impacted soil areas identified on Figure 3 within 120 days of the issuance of the Final Plan of Remedial Action. The soil from the three (3) smaller areas will be excavated and backfilled with DNREC-approved clean fill. A temporary cap will be placed over the Test Track Area to prevent contact with the impacted soils until a building or permanent cap is constructed. A permanent cap or building will be constructed within 5 years.
2. **An Environmental Covenant**, consistent with Delaware's Uniform Environmental Covenants Act (7 Del.C. Chapter 79, Subchapter II) must be recorded in the Office of the New Castle County Recorder of Deeds within 90 days of the issuance of the Final Plan of Remedial Action. The Environmental Covenant must include the following activity and/or use restrictions:
  - [a.] Use Restriction. Use of the Property shall be restricted solely to those non-residential type uses permitted within Commercial, Manufacturing, or Industrial Districts;
  - [b.] Limitation of Groundwater Withdrawal. No groundwater wells shall be installed and no groundwater shall be withdrawn from any well on the Property without the prior written approval of DNREC-SIRS and DNREC Division of Water;
  - [c.] Compliance with Contaminated Materials Management Plan. All work required by the Contaminated Materials Management Plan must be performed to DNREC's satisfaction in accordance with the Plan;
  - [d.] Compliance with the Long Term Stewardship Plan. For OU-2 and OU-3 and OU-5, all work required by the Long Term Stewardship Plan must be performed to DNREC's satisfaction in accordance with the Plan.



## Proposed Plan- Proposed Remedy (Cont.)

- 3) **A Long-Term Stewardship Plan (LTS)** updated with OU-5 requirements shall be submitted to DNREC for approval within 60 days of the issuance of the Remedial Action Work Plan. The LTS plan will detail: 1) the temporary cap and the cap inspection process for the Test Track Area, 2) the site-inspection schedule to be followed in order to ensure the long-term integrity of the remedy and 3) the Groundwater monitoring program to ensure that groundwater is not migrating offsite to impact receptors. The temporary cap inspection must be conducted on a quarterly basis until a permanent cap or building is constructed.
- 4) **A Contaminated Materials Management Plan (CMMP)** updated with OU-5 requirements shall be submitted to DNREC within 60 days of the issuance of the Remedial Action Work Plan. The CMMP will provide guidance to enable construction workers to safely handle any potential contaminated soil, prevent soil migration (soil and air borne dust) and groundwater at the Site.
- 5) **Remedial Action Completion Report** must be submitted to DNREC within 60 days of the completion of the remedial actions required in this Proposed Plan.
- 6) **A request for a Certification of Completion of Remedy (COCR)** must be submitted to DNREC within 60 days of approval of the Remedial Action Completion Report.



# Contact Information

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## Additional Information

<https://dnrec.alpha.delaware.gov/events/227/public-hearing-general-motors-wilmington-assembly-plant-remedial-action-plan/>